

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 14 December 2000 (14.12.2000)

PCT

(10) International Publication Number WO 00/75489 A1

(51) International Patent Classification⁷: E2

E21D 21/00

(21) International Application Number: PCT/SE00/00229

(22) International Filing Date: 7 February 2000 (07.02.2000)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 9902065-3

4 June 1999 (04.06.1999) SI

(71) Applicant (for all designated States except US): ATLAS COPCO ROCK DRILLS AB [SE/SE]; S-701 91 Örebro (SE).

(72) Inventor; and

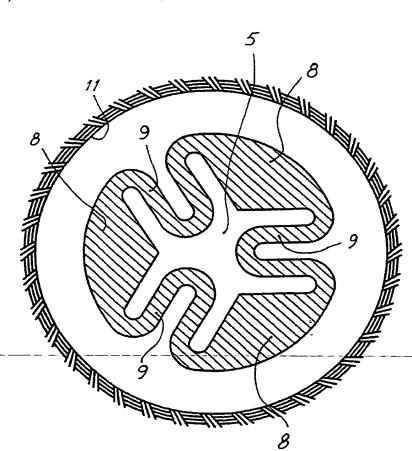
(75) Inventor/Applicant (for US only): ARVIDSSON,

Thomas [SE/SE]; Järntorgsgatan 12, S-703 61 Örebro (SE).

- (74) Agent: GRUNDFELT, Gunnar; Atlas Copco Rock Drills AB, Patents, S-701 91 Örebro (SE).
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: TUBE-FORMED ROCK BOLT



(57) Abstract: Tube-formed rock bolt with closed profile intended to be anchored in a bore hole. The bolt is anchored in the bore hole through internal pressurisation with a fluid, for instance water, so that its diameter is plastically expanded into contact with the wall of the hole. The bolt has before its expansion a cross-section whose peripheral length exceeds the circumference of the hole but a largest diameter, which is smaller than that of the hole. In order to obtain a profile being sufficiently flexible for expansion and at the same time having a sufficiently large cross-sectional area for the strength the tube has a varying wall thickness in a peripheral direction. This is achieved by making the tube-formed bolt by means of extrusion of an aluminium-based material

00/75480 A